

### **Abstract**

Systems, methods, and devices relating to the provision of deliberate predistortion to an input signal to compensate for distortions introduced by an amplifier subsystem. An input signal is received by a predistortion subsystem which applies deliberate predistortions to the input signal to arrive at a predistorted signal. The predistorted signal is received by an amplifier subsystem which decomposes the signal, processes the decomposed signal, and then recombines the components to arrive at a system output signal. The predistortion subsystem adaptively adjusts the predistortions based on characteristics of the system output signal. A feedback signal, a replica of the system output signal, is used in updating lookup table entries used to determine the predistortion.